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Epiphyllum Vive Rouge



CACTUS AND SUCCULENT JOURNAL

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PRESIDENT'S MESSAGE

The erection of frontiers between neighboring states which should rather be united into one undivided country, must of necessity, produce ill feelings and may, in the end, produce wars and civil disturbances. We, of these United States, are thankful for the wisdom of the Founding Fathers who decreed that there should never be such frontiers set up between our several states.

We therefore deplore the action of Oklahoma and Texas both of which have enacted laws ostensibly for the protection of agriculture against pests by quarantine, but actually to raise funds for their respective Agriculture Departments by taxation of imports on plants from other states.

Both states require that any nurseries outside the states which desire to ship nursery stock into Oklahoma or Texas must take out a nursery license for which a considerable sum is charged.

California and other states have effective quarantine laws by which pests are excluded by careful inspection without cost to the shippers and this is reasonable and praiseworthy, but the imposition of a tax, in the form of a nursery license for out of state shippers, dangerously approaches a tariff wall.

Let us jealously guard our heritage of free trade between the various states that we may not be reduced to the chaotic condition of the European states.

HONORARY VICE-PRESIDENTS

It is customary for the Society to elect each year a list of Honorary Vice-Presidents in recognition of outstanding service in the preceeding year for a better understanding of xerophytic plants. Your Executive Board has so honored ten persons at the first meeting of the year:

Mrs. Gertrude Webster, President of The Arizona Cactus and Native Flora Society for her work as founder and generous financial contributor to the Desert Botanical Garden of Arizona in Papago Park. The new Administration Building of this project was dedicated last month.

Dr. Carlos C. Hosseus of the University of Cordoba, Argentine Republic, for his monograph on the Argentine Cacti, part 1.

Mr. J. R. Brown, Mr. Alain White, Mr. Boyd L. Sloane, and Mr. G. W. Reynolds for their contributions to the excellent "Succulents for the Amateur."

Mr. Wm. Hertrich of Huntington Botanical Gardens, Dr. Forrest Shreve of the Carnegie Desert Laboratory, and Dr. Ira Wiggins of Dudley Herbarium who have aided the Nomenclature Committee and the Society in many ways during the last year.

Mr. Ladislaus Cutak of the Missouri Botanical Gardens, St. Louis, Mo., who by writings and lectures has brought knowledge of cacti and other succulents to many people.

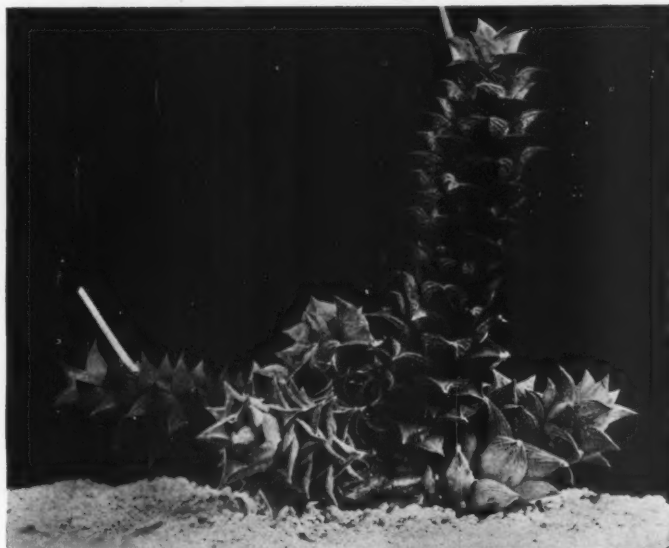
REGIONAL VICE-PRESIDENTS

For the current year we announce the re-election of Pat White of Milwaukee, C. R. Cole of Cincinnati and Mrs. Harry Lewis of Seattle, and we look for as fine and active work from them as we received last year. R. W. Kelly of Temple City, Calif., takes up the duties for the California District and Jay Gilkey of Oklahoma City has been appointed for the Oklahoma-Texas district.

For the first annual convention, if and where held, the latter part of June or early July will be selected. If you think this first meeting should be held to cement the Society into a united whole tell me about it and also tell me if you do not consider it a good idea—the next thirty days will decide.

If held, delegates will be appointed by each Affiliated Society, but any and all members will be welcome. Each Affiliate sends the delegates at the expense of the local group or at the expense of the delegate as you prefer. The meeting will last two days and interesting lectures and garden visits will be scheduled.

WM. TAYLOR MARSHALL
327 N. Ave. 61, Los Angeles.



Apicra aspera (Haw.) Willd. x 0.6

Notes on Apicras

By J. R. BROWN

Apicra aspera, (Haw.) Willd. in Berl. Mag. V (1811) 274; Bak. in Fl. Capens. VI (1896) 332; Berger in Pflanzenr. IV. 38 (1908) 116.—*Haworthia aspera*, Haw. Syn. (1812) 90.—*Aloe aspera*, Salm-Dyck, Monogr. (1836-49) sect. 3. fig. 2.

Plant with leafy stems which are usually more or less erect, 10-15 cm. tall and slowly proliferous from or near the base. Leaves closely crowded and arranged in 5 very spiral rows, 12-16 mm. long and wide, spreading, green in color, orbicular-deltoid, abruptly acuminate, tips recurved, face of leaves smooth and almost flat, back of leaves very rounded and rough with numerous small tubercles of the same color as the leaf, keeled toward the tip, the margins rough with small crenulate teeth.

Peduncle slender, 30 cm. and more tall; lower pedicels 5-7 mm. long; bracts minute, deltoid, about 1.5 mm. long; perianth 13 mm. long, white with a pinkish tinge, the short, spreading segments obscurely bilabiate.

Locality: type locality unknown. Recorded

from Springbokkeel. The plant, shown in the illustration, was collected in the vicinity of Montagu, South Africa.

Introduced to Kew Gardens by Francis Masson about 1795.

Apicra aspera is usually represented by a single stem and it has been found by the writer that old stems of *Apicras* are very slow to reroot and establish themselves and bear offsets. The cluster of *Apicra aspera* which is shown here, will probably, when growing in its native surroundings, equal in age the average person's lifetime. The stems on this plant grow out at any angle, even horizontally with the ground surface. Older erect stems become decumbent with age.

The faces of the older leaves are more or less flat, but are more or less concave in the younger leaves.

Different plants of this *Apicra* show varying numbers of the small, round tubercles on the back of the leaves and leaves of the same plant may also show great variation. In some cases the tubercles are very numerous and assume curving rows, corresponding somewhat with the curving

outline of the leaf, sometimes the tubercles may be more or less united in the rows, or again, the tubercles may be more or less scattered.

It will be noted that the perianth segments are described as obscurely bilabiate and the flowers

of all *Apicra* spp. are not exactly symmetrical.

The illustrations show a plant of *Apicra aspera*, x 0.6, a single stem, nat. size, and part of the raceme showing the minute bracts, the indistinctly bilabiate flowers, etc., nat. size.



Apicra aspera single stem and flowers, nat. size.

FROM WISCONSIN

We had hoped to get a hot house for our Cactus since I agree that this is the only way to properly handle cactus in this climate, especially when plants have to be dug up and replanted in boxes in the basement.

My Cacti are doing fine as I have them in boxes in the sunshine and water them once a week sparingly. I use the soil that they grew in in the rock garden, which was prepared properly. Great care was taken to disturb the mass of roots as little as possible and some of the plants do not even know they were moved. Then when they are set and in the ground next spring they will blossom profusely. I have no luck with pots in this climate as they require too much water in the winter, although our new house is air conditioned and we have an automatic humidifier to keep the air more nearly correct.

I also ran a 1 inch pipe through the stone wall of the basement right near the Cactus benches so that a stream of fresh air is coming in all the time for the

plants and also to help the oil burner to function properly.

I have the hardy *Opuntias* from South Dakota, North Dakota, Montana, and Wisconsin and they were growing well before the frost. Soil is sandy but contains leafmold, rotten plaster, and the whole thing is covered with 5 year old sheep manure and cedar boughs on top to catch the snow.

Tonight it is 18 below zero here and I am looking forward to spring. I keep my Cactus boxes up high off the floor to get more light and to keep the bugs away from them.

Last winter (1938-1939) I left out some of the more hardy *Opuntias* from Texas and Arizona thinking they would winter, but they froze up completely and were 100 percent loss, and set me back some as they were fine large specimens. No more of that for me.

I have had some fine blooms on my *Echinocactus horizonthalonius* and *Ferocactus*.

J. H. MARTINI, Stevens Point, Wis.

Standard Names for Hybrid Epiphyllums

Collectors of hybrid Epiphyllums have found that much confusion exists as to the correct names of many varieties. To clear up this situation, a number of leading growers and collectors have initiated an organization whose primary object is the standardization of names. The object is obvious and two-fold: first, to enable collectors to label their plants accurately; second, to guarantee purchasers that plants will be true to name.

Already two meetings have been held—one in July and one in December of 1939. At the next meeting, permanent organization will be effected. Membership will presumably be open to anyone who is sincerely interested in Epiphyllums. During the 1940 flowering season a series of tours to the larger collections will be made to check names further. The following rules of procedure have been definitely decided upon:

1. In case of honest differences of opinion as to correct names, a vote shall be taken after thorough discussion, and all members agree to conform to the decision of a majority.
2. Names settled by the above procedure shall be permanently retained and not changed at future dates.
3. The name EPIPHYLLUM shall be used and not PHYLLOCACTUS.
4. There are a number of excellent varieties for which no definite names can be found, even after conscientious search. An example is "German No. 5" which is in widespread cultivation. In such cases anyone may give the plant a suitable name and bring this name to the attention of the organization for approval as standard. The variety just quoted was given the name DESERT SUNRISE by Mr. R. W. Kelly. This name has been approved. Varieties which are simply known by a descriptive adjective, such as "Lavendar Pink," "Early Red," "Magenta," etc., belong in this category. Such names, even though in widespread use, cause endless confusion because they may properly be used as adjectives to describe any other variety which happens to have the same qualification. In the list which follows, all new names which have been approved under this rule are indicated by asterisks.
5. Our wealth of fine varieties has been created by the patient work of hybridizers. This work is going on more energetically than ever. It is obviously the privilege of any actual originator of a new seedling or sport to give his own origination any name he pleases,

so long as it is an actual name and a new one. In this connection, all originators are urged to adequately name and fully describe all meritorious originations and to put them on record by publication. The CACTUS AND SUCCULENT JOURNAL is glad to offer space for this purpose. If this is done, it will avoid much future confusion.

6. Names which have already been given and published by known originators must be respected and left unaltered, even though they may be unpopular.

The names of the following varieties have been approved as standard. The name of the originator is given in parentheses wherever known. Names quoted as synonyms are incorrect names for the identical variety and must be discarded in favor of the standard name.

- ADONIS—Very large, flat opening, pink.
 AGATHA (Syn. Peach Blow)—Pink with crimson center.
 AMBER QUEEN—Amber and red.
 ARGUS—Pink with deeper throat.
 AUTUMN—Stems all triangular; flowers red.
 BELGICA (De Laet)—White.
 BELLA—Soft Pink.
 BOHEMIENNE—Pink.
 BRILLIANT—Red and violet purple.
 *CATHAY—Bronzy outer petals shading through lilac and cerise to chartreuse eye.
 CLEOPATRA—Smoky pink.
 CONWAY'S GIANT—Very large red and purple.
 COOPERI—Creamy white, fragrant.
 *CORINNE (Syn. Coral)—Color coral throughout.
 DANTE—Light orange red, overcast with red violet.
 DELICIOSA—Clear pink throughout.
 DESERT SUNRISE (Syn. German No. 5)—Outer petals scarlet; inner petals orange red, bordered violet.
 DEUTSCHE KAISERIN (Syns. Kaiserin, German Empress, Empress)—Small pink flowers, buds opening very gradually.
 EDEN (Poindexter)—White with yellow outer petals and bronze sepals.
 ETOILE DE CONTICH (De Laet)—Coppery red suffused with red violet.
 FIESTA (Steele)—Orange scarlet bordered violet; fragrant.
 FLAMINGO (Steele)—Pinkish burnt orange; magenta center.
 *FLOR DEL SOL (Syn. Henna)—Petals narrow, very numerous; lacquered; henna color.
 FORTUNA (Steele)—Pink.
 FRANCOIS VERHAERT—Flat opening, scarlet and orange with violet edging.
 FRANZ LEHAR (Knebel)—Petals channeled; crimson; red violet with buff orange center stripe.
 GLORIA—Copper color.

HANS REHM (Knebel)—Dark red, shading to orange with violet borders.

HERMOSISSIMUS—Scarlet crimson with violet edges; orange center stripe.

HERMOSUS—Deep crimson and purple.

IMPERATOR—Orange scarlet edged violet; lacquered.

*INNER GLOW—Flat opening; color rich salmon.

JANET—Stems triangular; flowers red.

JENKINSONII—Stems triangular; flowers red, opening flat.

JOSEPH DE LAET (Syns. Jose de Laet, Fose de Laet, Tritone Orchid)—Outer petals red; inner petals orchid to white; frilled.

JULES SCHLUMBERGER—Red overcast violet; petals very narrow and twisted.

KERMESINUS MAGNUS—(Syn. Hermosissimus magnus).

*KINCHINJUNGA—Flowers white; Crenatum type with strongly angled tube and prominent stiff bracts, all chocolate color; very fragrant.

LATONA—Deep pink or crimson.

LILACINUS—Description incomplete.

LOHENGRIN (Steele)—Clear pink aging to magenta.

*LOTUS LANTERN—Chamois color shadowed cinabar.

*MON CHERIE—Veined yellow and red.

MADAM DE LAET—Rather wide open, cup shaped flower; cerise with some violet tinges.

MADAM SALLIER—Stems tall and narrow; flowers light flesh pink.

MAGNOLIA—Medium white, cup shaped.

MARIA VAN HOORDE—Lavendar pink; narrow petals.

MONTEZUMA—Amber and pink with violet center.

NIOBE—Bronze tinted stems; flowers brilliant scarlet, darker at edges; purple shading.

ORION—Very large bronze red and rose with wide violet borders.

PADRE—Large pink.

PEACOCKII—Triangular stems with stiff bristles; flowers large, heavy, full petaled, wide opening; outer petals red; inner iridescent violet.

POINSETTIA—Dwarf basket type with twisted flat stems; flat opening red flowers.

ROSETTA (Syns. Rosette, John Morley)—Flowers small; deep rose to magenta; shaped like a rose bud.

ROSEUS SUPERBUS (Syn. Rosea Superba)—Pale silvery pink.

ROYAL FLUSH (Steele)—Very full petaled; red.

SACUNTALE—Petals distinctly striped; bronze orange center; plum colored edges.

SCARLET GIANT—Large red.

*SCHEHERAZADE (Syn. Magenta)—Pink changing to magenta, solid color throughout.

*SUN GODDESS (Syns. Copper, Bronze, Copper Color, Hugh Evans Bronze, Large Bronze, Sun Fugitive)—Enormous flowers; burnt orange, sometimes with pinkish cast; violet eye.

SUNBURST (Steele)—Flat opening; terra cotta red with purple center.

THE LORD (De Laet) (Syn. Adele Murietta)—Exquisite waxy, pale with deep rose eye.

TRIUMPH DE ANTHIEUX—Brilliant vermilion with very long tube.

VIVE ROUGE—See illustration on front cover of this JOURNAL. Flowering plant at R. W. Poindexter Nursery. Photo by Haselton.

WANDA (Syn. High Tide)—Salmon color with deeper central petals.

WILLIAM DE LAET—Extremely dark flower, outer petals very dark blood red, inner petals dark violet purple.

R. W. KELLY, Secretary.

2410 La Rosa Dr., Temple City, Calif.

EDITOR'S NOTE: It would be interesting to know who originated each of the above plants and when and who gave them their names. Here is a field for one who can photograph the flowers properly so that it is possible to do them justice in print.

EPIPHYLLUMS TURN YELLOW!

We have a very large *Epiphyllum latifrons* and it is turning yellow! We have transplanted it several times in the 7 years we have had it, using leafmold and garden soil with a small amount of peat. It is now in a container which holds at least a half bushel and is so very large we don't know how we can re-pot it any more.

We are wondering if there is some kind of plant food especially good for this plant, as we are afraid we are going to lose it. It bloomed several times during the summer, having from 11 to 17 blossoms, but the last time the most of the 32 buds dropped off. If there is anything we can do for it we will appreciate very much having you let us know.

MRS. R. E. VAN NESS, Calif.

The following are possible reasons for this plant's turning yellow: insufficient water; too much light; insufficient soil fertility; root trouble.

Your soil sounds all right if it is sufficiently porous to give perfect drainage. Leafmold and peat are excellent ingredients. Good drainage can be secured by the addition of coarse charcoal, very coarse sand, or else gravel, or coarse unrotted leafmold.

You might take up the plant to inspect the roots and make sure that they are free from nematodes or other pests, but unless you are growing this plant in a glasshouse I would suggest you defer this operation until the weather is warmer in spring. It might be advisable to replace it in the same size container, unless the roots are crowded, in which case a larger special wooden box could be constructed. Such plants can be grown in fairly small containers if the small space is compensated for by more fertilizer. Ample water should be given and the soil never allowed to become dry clear to the bottom. Fertilizing is most advantageous throughout spring and early summer and should be applied as a top dressing of steer manure, sheep manure, bone meal, blood meal, or ammonium phosphate. The latter two must naturally be used with caution as they are strong. The plant should be at least half shaded from direct sun and should be shaded with cloth if in an unpainted glasshouse.

R. W. POINDEXTER.

A CALIFORNIA EPIPHYLLUM BOOSTER

We have had good luck with *Epiphyllums*, so we thought you might like to hear from us. We have an *Emperada* or arbor and since we face due south it is covered with brown canvas in summer, strung on wires. Thus the plants are exposed to sun in winter, but shaded from our hot summer days. We have some in redwood tubs, others in large pots. The redwood

tubs we had made for our large succulents—six sided and joined by strap iron bands—very "Montereyish," but grand for tub gardening.

Epiphyllums respond best to a liberal dosing of barnyard fertilizer given in November or December. In May they are a riot of flowers, lasting many days. One in a redwood tub 3 feet around by 2½ feet deep, had fifty blossoms during the season. We find them to be hardy and not demanding in their water requirements. It seems to us from seven years of succulent experience that most people overwater all of them.

The Epiphyllums are not subject to pests and even in our freeze of 1936 the leaves simply formed scar tissue, but came back beautifully.

It is good to give them a new start every two or three years. That is take plant out of pot, shake dirt loose and repot in one-third manure, one-third leaf-mold, one-third sand. Heavy soil seems to be all right however, but the real secret is the manure every year.

This type of cacti coming from a tropical climate can stand to be in richer ground and under more cultivation. They are even grown in outdoor gardens in sheltered spots in Oakland, California.

On the whole they are easy to raise and their beautiful flowers are a delight to behold. Surely one can ask for no more reasons as to their growing popularity.

MRS. FRANK MCKEE, San Rafael, Calif.

NEW EPIPHYLLUM LIST

Dealers' catalogues have and always will play an important part in plant records. Especially is a catalog valuable if it is free from fantastic names created just to sell plants or to promote the name of its author.

"1940 Epiphyllum List" is the specialized retail catalog just published by the R. W. Poindexter Nursery, Compton, Calif. This 22 page list is based on the recommendations of a nomenclature committee and every endeavor has been made to clarify names rather than to list hundreds of meaningless numbers and varieties. Even in his own creations of new hybrids we have seen Dr. Poindexter destroy plants that seemed worthwhile to us, but to him did not pass his severe requisite for a flower with unusual merit or a sufficient difference to warrant its existence.

A brief description is given of each plant and its flower color and characteristics. Prices are given for rooted cuttings, medium sized plants, and specimen plants. There is no doubt but what this list will be most valuable in promoting interest in this group of popular plants. The list is free—R. W. Poindexter Nursery, 1000 N. Temple St., Compton, Calif. Please mention the JOURNAL.

NEW WHOLESALE LIST

Gates Famous Cactus Gardens, 119 S. Illinois St., Anaheim, Calif. This four page illustrated list should be most helpful to retailers of bowls and small plants. The sizes of many of the items are shown and this will be most helpful to buyers. Mr. Gates has built his business on the hardness of his plants which are grown to ship well and to be in excellent condition upon arrival. He has no use for job lots and one time sales otherwise he would not have recently acquired 15 more acres for expansion after his 20 years of experience in growing those plants. Mr. Gates will gladly send a list to any dealer requesting it on his business letterhead.

A CORRECTION

I am confused about the correct name of one of my Haworthias. I bought it for *H. coarctata*, but it is the plant pictured in *Succulents for the Amateur* at the lower right on page 160, which is labelled *H. Chal-*

winii. Is it possible that the names were misplaced in the latter on page 160? (EDITOR'S NOTE: You are correct in the names which escaped correction. Readers of "Succulents for the Amateur" should transpose the captions of these two Haworthias.)

Your statement in *Cacti for the Amateur* of the need for literature on succulent plants to make our zest for them permanent is certainly true. It struck me with such force because it expressed my own vague idea so clearly. Just as soon as I became interested in succulents I began trying to find articles on them in magazines in our college library, in encyclopedias, etc. I wanted to know their names, their habits, needs, and relations to other plants. And I was desperately disappointed to find so little. Then I discovered the name of the Cactus and Succulent Society and JOURNAL in "The Flower Grower" and in my husband's "Plant Encyclopedia."

Every issue of the JOURNAL renews my enthusiasm, which sometimes gets pushed aside by other urgencies. And I carry my copy of *Succulents for the Amateur* upstairs with me almost every night for some reading in bed, one of my favorite pastimes. If I forget to bring it down with me next morning, I usually have to go up and get it, for I am always wanting to look up something, or re-read a statement, or look again at a picture. Both of these books for amateurs are exceptionally well done, and I am grateful for the interest of you leaders in building up a valuable body of literature for the novices as well as the experts.

I have just finished removing all the sections of the Glossary from my JOURNALS and have them all together in a folder. They are immensely helpful.

Keep the good work going.

CLARA H. CLEVENGER, Mo.

FROM AFRICA

In a recent letter Mr. G. W. Reynolds takes exception to our statement that Aloes are practically free from pests. He says, "Unfortunately, I wish this was the case, but the reverse is the truth. Most Aloes are very susceptible to pests and diseases, especially soft and hard scale, and those horrible circular rings of pores, commonly called rust."

Can it be that since many of our Aloes are garden hybrids that they are more disease resistant than the true species of Africa? Our one plea to Mr. Reynolds is to please confine Aloe pests to Africa because our observations in the U. S. still show that Aloes are among our cleanest plants.

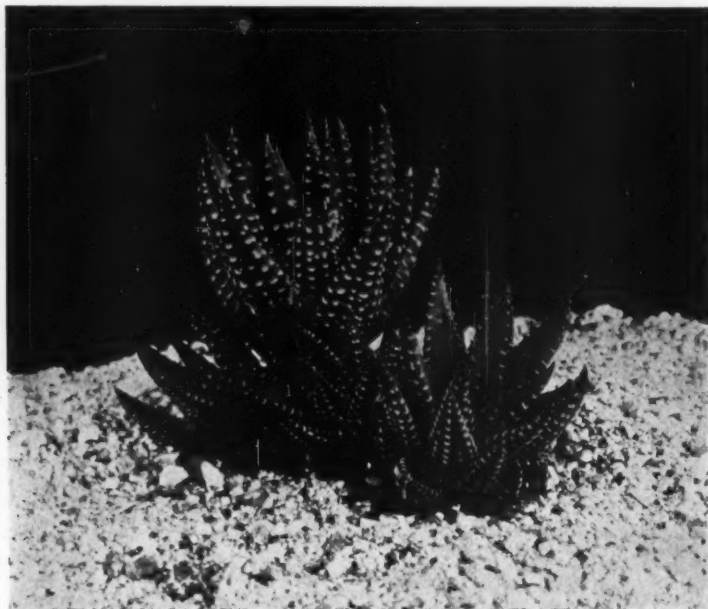
It is also interesting that Mr. Reynolds states, "—in South Africa, all Aloes without exception, flower whether in exposed sunny positions or in the shade." Again we differ here in the United States where Aloes become "stringy" and pale in color unless given full sun which is a requisite for flowers. Either the light is more intense in Africa or their shade is far less dense in the natural habitat of Aloes.

These comparative observations are most interesting and show that there are no set rules for growing plants.

S. E. H.

I have enjoyed every issue of the JOURNAL and have read every one over many times and get some new help and inspiration every time. Some time I am going to answer your plea for response from your Eastern members of the Society, but like a baby bird, I'm afraid to try my wings yet. Please keep on being Editor of the JOURNAL always.

MARY B. WISE, Fla.



Haworthia fasciata (Willd.) Haw. forma *sparsa* Poelln., nat. size.

Notes on Haworthias

By J. R. BROWN

Haworthia fasciata, (Willd.) Haw. forma *sparsa*, Poelln. in Repert Sp. Nov. XLIII (1938) 96, in Cac. Journ. VI (1938) 75 photo.

Plant stemless or with a very short stem, 3-5 cm. in diam., proliferous from the base and ultimately forming a cluster. Leaves 3-5 cm. long, 1-1.5 cm. wide toward the base, face of leaves

smooth, the back with somewhat small, usually solitary, white tubercles arranged in indistinct transverse rows but in somewhat prominent lengthwise rows.

Locality: Collected on the Witteklip Mts.

A trim little form of *Haworthia fasciata* and distinct by its conspicuous and solitary tubercles arranged in more or less prominent vertical rows.

SOONER OR LATER

I am very much classified in our dog circles as the original Western Kennel World, now being the property of Helen 2nd, but I have gone cacti as well as pot culture bugs.

I hope you folks have an exhibit again in our 1940 Fair. I expect to have more leisure the coming year to visit.

HELEN ROSEMONT, S. F.

I have been interested in flowers and plants for many years. After going with the tax commission of my state as one of the traveling field representatives, my plants were neglected for more or less long periods. I find cacti can withstand neglect, and in many ways very interesting.

WAITMAN GALL, Jr., Va.

SINK OR SWIM

J. R. Brown looked out of the Editor's office and watched the downpour. With a sigh he turned away muttering, "And the shipment of baby water wings hasn't arrived for my little succulents."

WE DON'T WONDER

I was a member of the American Philatelic Society for some years, but lost interest in stamps and am now a "cactophile."

JOHN S. B. MORRISON, Mass.

IT'S NO USE

Three years ago I was a subscriber to the "Cactus and Succulent Journal." At that time I thought I might get over this *urge for cacti*, but I find now after three years that I still like the plants, so now wish to know where I can purchase books on the subject.

MRS. ELOISE RIDDELL, Calif.

I thought I would drop my subscription to the JOURNAL, but I am lost without it and wonder if you can send me the missing issues? Last one I have is October, 1939, and continue on from there.

MRS. LEROY BUHNER, Minn.

Our Desert Lilies

Although *Yuccas* are not recommended for pot culture or for the cold, damp localities, they include some of the most interesting and largest plants in the Lily Family LILIACEAE. Some of the *Yuccas* are native only in the United States and travelers will encounter them on the western arid plains and deserts of the Southwest.

Dr. Frank Schilling in *Desert Magazine** has described some the best known species. The line drawings, made for the *Desert Magazine*, by Mr. Norton Allen, are excellent for identification and will help in stimulating interest in the American deserts. Dr. Schilling describes these species as follows:

YUCCA BREVIFOLIA—JOSHUA TREE

On their trips across the Mojave Desert nearly 100 years ago the Mormon colonists were so impressed by the dignified beauty of a certain strange species of tree along the way that they named it Joshua tree—a "sign" from heaven to weary travelers on their way to a new promised land.

These weird trees have ancestral fossils in the rocks of the Tertiary period.

They are scraggly and grotesque, sometimes reaching a height of 30 or 40 feet,



A lily not recommended for pot culture. *Yucca brevifolia*, one of the largest Joshua trees ever discovered. This tree was growing near Roosevelt, California, and has been practically destroyed by vandals. Photographed in 1932 by Ernest Branton.

*The *Desert Magazine* published in El Centro, Calif. \$2.50 per year, 25 cents sample copy. The finest magazine of its kind ever published.



Yucca brevifolia. LEFT: Flower cluster and leaves. CENTER: Young plant. RIGHT: Characteristic scene in the Mojave Desert, California.



Yucca baccata in bloom.



Yucca whipplei in bloom.

Photos by Francis M. Fultz in his book
Lily, Iris, and Orchid of Southern California

with dark brown trunk from one to three feet in diameter. The crown is open, with one or several contorted arm-like branches, having clusters of rigid, spine-tipped leaves, six to nine inches in length, and with the edges finely toothed.

Each season's leaves remain green several years. In time they bend down, close to the trunk, finally die and fall off. The bark of these trees is rather thick and cork-like, furrowed and checked. Young trees remain unbranched until they have

produced flowers. The flowers, which appear from March to May, are greenish-white, and congested in heavy panicles or clusters, from eight to fourteen inches in length, at the ends of the branches. Although the flowers have a disagreeable, fetid odor they were relished by the early desert Indians who used them as food.

The Joshua tree, botanically known as *Yucca brevifolia*, Fig. 1, is widely distributed on the Mojave desert, extending to the easterly boundary of Kern county, northward to Inyo county, to southwestern Utah and into northwestern Arizona. It is also variably known as *Yucca arborescens*, *Cleistoyucca brevifolia*, and *Cleistoyucca arborescens*.

The seeds were gathered by the Indians and ground into a meal, which was either eaten raw or cooked as a mush. Several years ago an attempt was made to establish a plant to manufacture paper pulp from the wood of this tree, but owing to the excessive cost of manufacture, the enterprise was abandoned. Surgical splints and souvenirs are made from rotary-cut yucca veneer.

YUCCA WHIPPLEI—CANDLE OF THE LORD

In the chaparral belt west of the main Sierra of Southern California and extending eastward to the land of the Cahuillas we find another species of yucca, *Yucca whipplei*, Fig. 2, or the Candle of the Lord as it was affectionately known by the Spanish-Californians. The plant has no trunk, and the slender lance-like leaves grow in a basal rosette. The creamy-white wax-like flowers are borne by the thousands in panicles, or large clusters, from three to several feet in length. During the months of May and June the hillsides are dotted by countless Yuccas, sending aloft the white candle-like flower clusters, which in-



Yucca whipplei over 10 ft. tall. Photo from Mrs. Wright Pearce's collection in Claremont, Calif.

crease in size from day to day, until finally the blossoms, having matured, wither and dry, leaving in their stead capsules containing numerous seeds which were formerly eaten by the Indians. The flowers were picked and prepared for food by boiling in water in ollas. The tender immature stalks, known as *Pa-nu-un* by the Cahuilla Indians, were cut before flowering when full of sap and roasted in fire pits.



Fig. 1. *Yucca brevifolia*

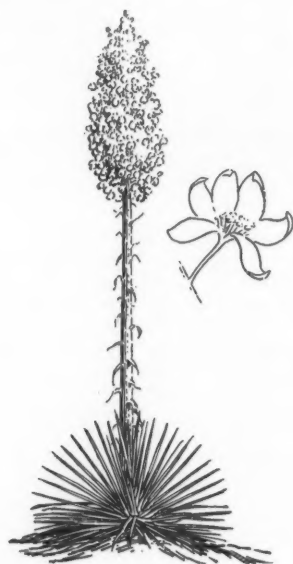


Fig. 2. *Yucca whipplei*



Fig. 3. *Yucca mohavensis*

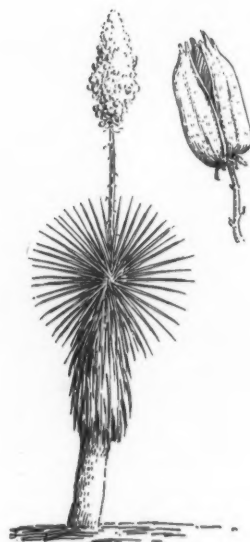


Fig. 4. *Yucca radiosa*

YUCCA MOHAVENSIS—SPANISH DAGGER

The Spanish Dagger, *Yucca mohavensis*, Fig. 3, has a simple or short-branched trunk, sometimes attaining a height of 12 to 15 feet. The smooth-edged, green-yellow leaves, conspicuously marked with thread-like fibers frayed from the borders, are from one to nearly three feet in length and concave. Like those of the other Yuccas, the whitish flowers are condensed into compact panicles from 12 to 18 inches in length. Spanish Dagger is found on the Mojave desert, southward through the Santa Rosa and San Jacinto mountains to northern Lower California. Its range extends eastward into Arizona and Nevada.

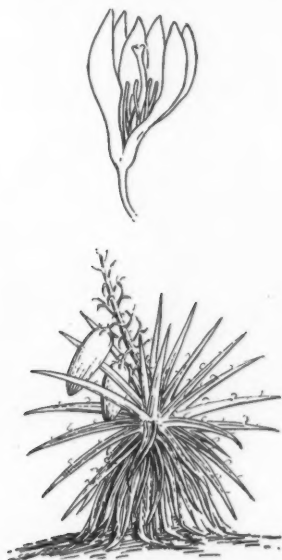
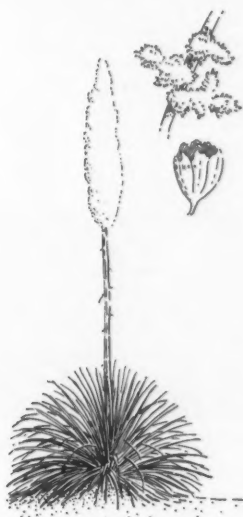
The Cahuilla Indians used the green, pliant leaves for binding ridge poles, side beams and rafters of their houses, and their name for the entire plant is *Nin-yil*. The fibers were extracted by soaking and basting the pliant leaves until the pulpy part and epidermal sheath were gone. They were then bleached by being buried in mud, after which the fibers were combed out. Thick foot-pads or sandals, also linings for the coarse saddle-blankets, were made from these fibers. The root, called *Hu-nu-wut*, was grated and the scrapings used as soap. The green fruit was roasted over coals and eaten.

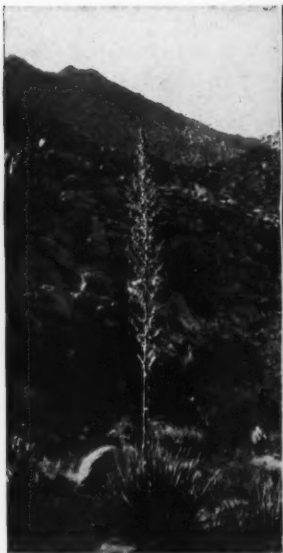
YUCCA RADIOSA—SOAPWEED

The deserts of Southern Arizona, New Mexico, Texas, and Chihuahua are the home of another species—*Yucca radiosa*, Fig. 4, which has a trunk sometimes from 15 to 20 feet in height. The gray-green leaves are narrow, from one-quarter to one-half inch in width, with narrow white margins. The white flowers are borne in panicles at the end of long stalks or spikes. *Yucca radiosa* is known as the *Palmilla*—"little date palm"—or Soapweed in Mexico, and the roots are termed *amole*.

YUCCA BACCATA—SPANISH BAYONET

Another yucca, the Spanish Bayonet or Datil, *Yucca baccata*, Fig. 5, very similar to the Spanish Dagger, inhabits the eastern part of the Mojave Desert, and ranges eastward to Colorado and New Mexico. The leaves, likewise, are yellow-green, from 15 inches to two feet in length, and grow in rosettes close to the ground. The flowering stem, from two to four feet in length, bears the whitish, waxy flowers in panicles similar to those of the Spanish Dagger. The seed pods, from three to five

Fig. 5. *Yucca baccata*Fig. 6. *Nolina bigelovii*



Nolina parryi in bud in its characteristic environment.



Close-up of single spray.



Nolina in full bloom in San Diego County.



Flowers of *Yucca whipplei*



Flowers of *Yucca brevifolia*



Flowers of *Yucca mohavensis*

Lily, Iris, and Orchid of Southern California
Photos by Francis M. Fultz in his book

inches in length, were picked green by the Cahuillas and roasted in burning coals. The fruit is sweet, not unpleasant to the taste, resembling roasted green apples. The ripe pods are filled with big black seeds, filling the center in four rows.

Of the various Yuccas in the Southwest, the Spanish Bayonet was the most important in the lives of the primitive peoples. The Tewa Indians formerly made cord and rope from its fibers, which were extracted by boiling the fleshy leaves a short time, then chewing them when cool. Sandals, baskets, cloth and other artifacts were made from the fibers of the Spanish Bayonet by the pre-Columbian Basket makers and Pueblo people who inhabited the pit houses and cliff dwellings of Arizona, New Mexico, and Colorado. Yucca fiber was combined with cotton in weaving, and the fur of beaver, otter, or rabbit was incorporated with it, or twisted around it, to make warmer or more ornamental fabrics.

YUCCA GLAUCA

In northwestern New Mexico and northeastern Arizona another Yucca is found—*Yucca glauca*, which also played an important role in the lives of the Indians of Pueblo-land. The slightly sweet seed-pods were boiled and eaten, the younger pods having been preferred. The seeds of the young pods were eaten. The pods were not combined with other foods and were never eaten warm. They said, "they would not agree with the stomach if taken with other food." The Zuni extracted the juice from the fruit by boiling and used it in the manufacture and decoration of pottery. The Navajo, Apache, and other tribes also used the *Yucca glauca*, which was known by the Zuni as *Ho'tsanna*—"long-leaf small"—the leaves a little more slender and shorter than those of *Yucca baccata* which was known as *Ho'kiapa*—"long leaf wide." In years gone by the dried stalks were used in the making of fire drills. Hair brushes, as well as brushes for decorating pottery, were made from the leaves and fibers of this plant.

NOLINA

On the arid slopes of the mountains bordering the Colorado desert, and extending southward into Lower California and eastward into Arizona, we find a plant which is frequently confused with the Yuccas, on account of its similarity. This is the *Nolina*, of which there are two species in California. *Nolina parryi* and *Nolina bigelovii*, Fig. 6. Close examination reveals the fact that the flowers of the *Nolina* are much smaller than those of the Yuccas, being but a quarter of an inch in length and arranged in open compound clusters or panicles. The flowers of the Yucca vary from an inch and a half in length to four inches, and are arranged in heavy panicles. Further examination shows that the leaves of the *Nolina*, which are crowded in a rosette are keeled, that is, the underside has a longitudinal central ridge, similar to the keel of a boat, while this feature is absent in the leaves of the Yucca.

JOSHUA TREES

Far out on the Mojave in a little desert lean-to lives King Zany, the man who is bringing the beauties of the desert to life in living words that he scrawls on the wood of the Joshua tree.

In the deserts of California, Nevada and Arizona there grows a tree of the species of Yucca called the Joshua. Some of these trees are thought to be at least 500 years old. Many grow to a height of thirty feet and a circumference of ten feet at the base. The trunk is very rough in appearance, brown in color. Branches shoot off at any angle, and in this peculiarity they are unique. Grotesque shapes result. Broken statues, tired soldiers leaning on guns, dancers, runners . . . and of course there is the unusual tree that is perfectly formed. At the end of each branch the rough bark of the tree becomes an olive green spiny mass. Porcupine-like, these spines are about eight to ten inches long. As the tree grows it blossoms at the end of the branch . . . cream-colored, heavy, thick-petaled blooms with a sweet, musklike odor. The fruit is podlike, about the size of a large walnut, but the same

cream color. As this ripens those that are not eaten by the fat chipmunks, turn sand color, and in time drop off. Each year new spines grow out and those lower on the branch become brown and drop down, much as the palm tree fronds. A small tree will have the spines—though brown in color—all the way to the ground, though the larger trees seem to lose them far up on the trunk, worn away by the wind and sand.

For making veneer, the tree is cut into logs, the bark removed and the log soaked in water. It is then put in a lathe, and as it goes round and round, the knife being set at a certain thickness, before long there is a long strip of wood, one sixteenth of an inch *thick*—perhaps twenty inches wide, and as long as the log allows. The very center of the tree, we find is merely pulp, very soft and spongy.

The soft sepia tones on this cream-colored wood are due to the drying of the wood before it reaches the lathe. The weather, heat and dryness cause the change in color. The wood has a sugar content of 12 per cent so when the Mojave sun gets at it there is a mystic charm in the patterned color tones.



The "Magic Garden" of Mrs. A. Labadie in Plymouth, Michigan. This lath house was constructed from the plans in "Cacti for the Amateur" (pg. 92). Growers in the East can profit from Mrs. Labadie's experience and build a portable lath house where they can house their plants during the summer; stronger plants and more flowers will be the reward.

EXPERIENCES IN CACTUS CULTURE IN MICHIGAN

I am enclosing two views of my Lathhouse. I call it my Magic Garden. And oh, how my plants are growing. I have had to repot two—the roots were growing so far in the sand. As I have the pots sunk in boxes painted white, in fact every thing in there is white. The pots you see hanging are Orchid and Christmas Cacti, the ones on the wall are *Harrisia jusberrtii*. *Faucaria tigrina*, who after giving me two lovely blossoms, sent its roots two inches in the sand. The *Harrisia* has grown six inches since it has been out doors.

In September I took my plants nearly all in the house and withheld the watering, except the *Zygocactus*. Mine is a graft and measures twelve inches across. The soil I use for Mesembs. is one-third coarse sand, garden loam, leafmold, and for good measure a little manure. I have had wonderful luck, although I see that there is a little more sand. When they are in bud, I water them a little when it's very warm twice a week, otherwise only once. I suppose I'm wrong, but as you see I have plenty of blossoms and no straggly plants.

Now on grafting—they have all shown new growth and my *Rebutia citrocarpa*, which did not measure one inch when grafted on *Selenicereus* stock, now has 25 heads. Also *Echinocereus papillosus*, which I received in very bad condition, I grafted last June and already (Sept.) it has two babies. So thanks to your JOURNALS I'm learning and succeeding in my hobby.

Now (January) that winter is coming to people less fortunate than those who live in the warm sunny climate of California, and surrounding points, I roll up my sleeves in preparation of getting my pet cacti all warm and comfy for the long cold winter weather.

Perhaps some of the readers of the JOURNAL would like to know how I successfully winter my 250 Cactus plants. This, of course, applies to those who have cold, damp, snowy winters, such as we have here in Michigan.

My plants are all in pots and all in doors by October 1st. After looking them over carefully I repot those that need it. I plunge the pots in white pine boxes painted white filled with German peat moss. I pack the moss well around the pots, then fill the pots and top of the boxes with white quartz which is very attractive.

I find that this way is much easier to handle any plant that develops mealy bug and plants so infected are quickly taken out and treated or cured before replacing again.

These boxes fit on glass shelves on various windows

around the house. When they develop buds I leave them just where they are, and I always have an abundance of blossoms. East and South windows develop the quickest buds.

From the middle of September I start reducing the amount of water, and by October 1st, I gradually cut the watering to once a month. In December I lengthen this another fifteen days, increasing as winter weather grows colder.

The Texas Cacti I give no water unless they show signs of withering then a little is given with an eye dropper. Some do not get a drop of water until buds are well developed. In this way I have not lost a plant. My tiny seedlings I have in peat moss, also in a discarded aquarium which has a glass to fit top. In this large square case I also keep my tender species. I never allow the seedlings to dry out. Warm water is given them by eye dropper. They are kept growing the year around. They are little beauties, clean and healthy. I keep a thermometer in the case and on the window shelves. The temperature in the rooms is kept around 60 or 70 degrees. If plants are watered freely it would start new growth, so I keep them almost dry during their rest period.

Just two weeks ago a leaf of one of my *Echeverias* broke off and I laid it on the quartz in the glass case where I had sprinkled a little sand, and behold a tiny plantlet arrived which gave me such a thrill. It was so snowy white I thought it was a piece of quartz.

Once a month I spray all my plants with alcohol whether they need it or not. I have very few pests, and this spraying helps to keep my plants both clean and healthy.

To me, these particular plants are the most lovely and interesting ones: The snowy whiteness of *Espositoa lanata*, the stately attractiveness of *Cephalocereus senilis*, the long intermingled white spines of *Echinocereus longisetus*, the spine formation of *Brittonia Davisii*, the beautiful *Ferocactus cloranthus*, the quaint correctness of *Dudleya Brittoni*, the interesting *Faucarias*, the tiny dainty *Notocactus* and *Lobivias*, not to mention all the beautiful flowers, too, both cacti and the other succulents. My Cactus and the JOURNAL, with all its interesting reading material, has afforded me many pleasant hours.

I'm happy indeed that I am a member of so interesting a Society, and as a fascinating hobby, I say grow Cacti.

MRS. A. LABADIE, Plymouth, Mich.

AN OIL SPRAY

I have noticed at times in the JOURNAL pleas for something to use on mealy bugs. I am surprised to never have seen mentioned the use of "Volck." Especially since it is made in California.

It is very effective, seeming to penetrate the waxy coating on the bugs better than other sprays I have used, and is equally as good on scale.

I refer to mealy bugs on the plants, of which I have had some serious infestations. Several sprays of "Volck" entirely eliminated them and I use it now only on new plants as I receive them.

I have never seen mealy bugs on the roots so wouldn't know about them, but perhaps the solution I use for ants and worms or black flies and their larvae in the soil of potted plants or those planted directly in the ground would do.

It is obtainable at drug stores and is mixed as follows: 1/2 ounce of Corrosive Sublimate dissolved in water. Add this to four gallons of water and saturate the soil with it.

Would suggest mixing it in a graduated bottle so smaller quantities could be used. It won't harm the plants, but is hard on metal containers unless washed out immediately.

FRED SCHOENBERGER, Minnesota.

SCRAP BOOK

I have a suggestion to make to those just starting a cactus collection. I have found that by keeping a scrap book of pictures and magazine articles the cactus hobby becomes even more fascinating, if possible. It also helps me to learn more about the cactus plant and where they come from.

A very Happy New Year to you and all the other cactophiles.

MRS. P. L. AKINS, Chicago.

SUCCULENT SOCIETY OF SOUTHERN RHODESIA

I have to acknowledge with thanks copies of your magazine, which, in spite of the war continue to arrive safely. This little magazine is read with much appreciation by those members who get the opportunity to do so.

E. C. BERTRAM, Hon. Secretary.

STERILIZING SOIL

Having read so much for and against baking, or heating of soil for planting seeds or plants, I am prompted to add my bit to this controversy.

I have been baking my soil and containers for sowing seeds of all kinds for about 15 years, also the soil for planting and potting cacti for 3 years.

It has been said that baking the soil kills all bacteria or microbes necessary for the growth and health of plants. Be that as it may, I have always had remarkably healthy plants, using this method. I have no little weeds to grow among my choice seedlings, and make me wonder which are the plants I wish to keep, and which to pull out. Results, no dilemma. Those that come up must be of the seed I have sown.

In sowing seeds I first fill my container with drainage, and soil. Then I put it on the ledge of our pipeless furnace, or bake oven of kitchen range, leaving it there for perhaps 1/2 to 1 hour, depending on the heat at hand. I turn once in furnace to get the side nearest the flame which first was near the fire door. My containers are all clay pots, and old dishpans, or saucepans, so they can take it.

The soil I use for potting, including stones, etc., for drainage, peat moss, black soil, sand, even bonemeal for fertilizer, is all baked before I use it for potting

cacti. People who see my seedlings and growing cacti, remark at their healthy appearance. They seem to ignore the absence of the dead, so-called organisms, which I have heard are necessary for their well-being. Either that, or I am cussedly lucky, in spite of this. Anyway, I have found it pays to bake soil. I first tried the other way, a number of years ago, before I learned of baking soil, and had a lot of trouble.

I also water all slow-growing and choice seedlings with boiled water until they are well along and can overcome moss or algae, which will form on the top of the soil, despite charcoal, Semesan, or other disinfectants. Later on I get a little lazy, and use most any kind of water.

This experience I quote for the simple reason that it may help some of our readers who may be struggling between the dark and the daylight, wondering which way to choose. I don't guarantee they will have the same luck as I do, but I merely tell my own results for what they are.

JOHN T. FURCHNER, Allentown, Pa.

FROM TEXAS

Today I noticed a clear gummy exudation, forming a clear drop, mostly on the areoles, of *Ferocactus uncinatus*, *F. whipplei*, a specimen I bought under the name of *Opuntia peruviana*, and several others. This exudate is evidently caused by some kind of a borer. The *F. uncinatus* in particular is just covered. Yet I can find nothing apparently to cause it. Please advise me of the probable cause and the remedy. C. V. PAYNE.

We have noticed that several kinds of cacti seem to exude this gum when they absorb too much water. Borers and bruises cause them to exude this sap, also, but I would suggest that you try keeping them a little dryer if you have not already done so. We find that *F. uncinatus* has the greatest tendency to throw off moisture in this way.

FROM ARIZONA

We sowed several boxes of *Peniocereus greggii* seeds; we got them in rather late, but a number came up; some in three days, some in ten days, and some in six weeks, and a lot never came up. They are slow growing, but what we have are nice and healthy. Some of them are one and one-half inches high; the seeds were a year old. We had a beautiful show July 10th, when we had 225 *Peniocereus greggii* blooms out that one night. That was our one big night. Mr. Whittle just took off the fruit (Jan. 5) which we have enjoyed looking at all winter—large, and bright red. The birds got a lot of the seeds before we had them protected.

MRS. HARRY E. WHITTLE.

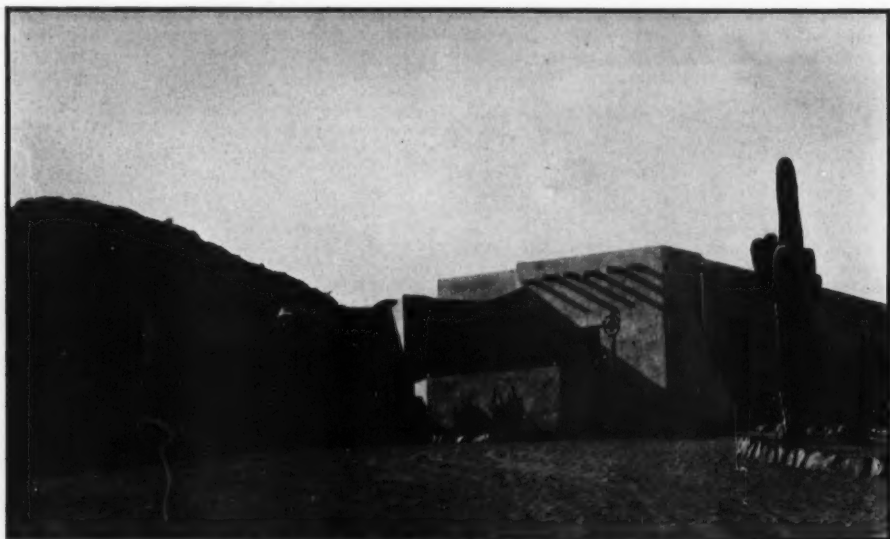
Society member A. S. Harmer of Dieringer, Wash., gave a lecture on cacti before the Free Public Demonstration School in Tacoma. His talk was illustrated with living material and was enthusiastically received.

FROM OKLAHOMA

Great cactus weather we're having here. Every plant I have has been subjected to temperature of 15 degrees one night. My *Hylocereus*, *Leptocereus* and *Epiphyllums* are past history. My "hardy" cacti have been buried in snow since Xmas day except on south side of office building. The latter are thawed out on sunny days and frozen again each night. Night temperatures ranging from 15 degrees above to 10 degrees below zero. Sure taking a beating, but those in sight seem to be all right so far.

Have several *Echinopsis* sp. outside under a snow drift that I am rather curious about.

J. W. SKINNER.



The Administration Building of the Desert Botanical Garden

Dedication at Papago Park

The recently completed Administration Building of the Desert Botanical Garden of Arizona was dedicated on Sunday, January 21. The short ceremonies, officiated by Mr. H. M. Fennemore, featured a series of short talks by Governor Robert Jones, Mayor Walter J. Thalheimer of Phoenix, and Mr. Fred Gibson, Director of the Boyce Thompson Arboretum of Superior, all of whom pledged support and pointed out the value of the institution to Phoenix, to Arizona, and to the horticultural world. Mrs. Gertrude D. Webster, President of the sponsoring organization, The Arizona Cactus and Native Flora Society, gave an interesting talk about the history of the Society and of the Botanical Garden.

Mrs. Webster said that the completion of this, the first project in their one-hundred year plan, was due to aspiration, enthusiasm, confidence, industry, love of the work, unselfishness, and reverence for the project by their group.

The building is of modified Mexican-Indian architecture. There is a twenty-five by sixty foot library-assembly hall, off of which opens the President's office. There is a guest wing with various utility rooms and two guest bedrooms for visiting scientists, a pantry for the main room, and the Director's apartment and office.

The library is furnished with bright Mexican chairs, occasional tables of antique New Mexican

pine, and three large library tables, one of which is fourteen feet long. The room is decorated in neutral tones, spots of color being furnished by a huge mural over the fireplace of Yuccas in bloom and by two interesting Mexican tin lanterns and by a series of Indian designs painted along the walls and featuring their plant symbols.

The rear of the building is a large patio, surrounded by a thick adobe wall against which are being planted a number of the climbing Night-blooming Cereus. As the patio is well lighted, without doubt it will be used often for spring evening garden parties, with the opening Cereus flowers the center of attraction.

The guest rooms, also furnished in interesting antique Mexican pine furniture, open into a terrace from which a fine view of the Superstition, Four Peaks, MacDowell and Camel-back mountains can be had. The terrace is bordered with redwood boxes in which are planted a collection of crested, grafted, and other unusual cacti.

At present, work is being concentrated on an "Arizona Walk," which will follow up an arroyo near the administration building and along which will be planted all of the cacti found in Arizona. Thus in a few minutes, the visitor will be able to see cacti that would take weeks of driving to visit in their own habitat. All planting,

with the exception of that in the bed surrounding the building, is being done in a natural way. One bed has been dedicated to plants of Lower California, a hillside to African succulents, another will feature South American plants.

Attendance has been most gratifying. Howard O. Bullard of Hackensack, N. J., was the representative of the Cactus and Succulent Society of America. Over fifteen hundred visitors attended the dedication, while each afternoon finds many wandering among the cactus beds and in the

building. Over three hundred visited the garden on the Sunday afternoon following the dedication day.

Within a few weeks, the garden plans to send a collecting party into southern Sonora and northern Sinaloa for a collection of plants from that region. The Director, George Lindsay, will be in charge of the expedition and new plants and valuable scientific data are bound to be the results of his thoroughness and knowledge of plants.

OHIO STATE UNIVERSITY COLLECTION, COLUMBUS, OHIO

After reading and enjoying the contents of the CACTUS AND SUCCULENT JOURNAL for several years and profiting greatly therefrom, I venture to contribute this, my first "Letter to the Editor."

My innate interest in desert flora first found expression some five years ago in the acquisition of a half dozen ordinary plants from a local flower shop. Intrigued by their potentialities, I added to these from time to time, mostly from growers in the Southwest, until by 1937 I found myself with around 100 species of cacti and other "succulents."

At that time, having occasion to go abroad and realizing suddenly that no one other than myself was prepared to care for them, I requested and received permission to place them temporarily in the botany greenhouse of our State University. Up to this time I had accommodated them, in a room with large windows facing to the south, in the Ohio State Museum with which I am identified.

In England I admired the fine collections of succulents in Kew Gardens and, on my return, those in the New York and Brooklyn botanical gardens. Arriving home, I found that my collection in the botany greenhouse was being utilized by botanists and students in the study of plant adaptation and evolution. In fact, the collection was so highly appreciated that I was given a wing of the greenhouse, 18x24 feet in size, in which I might "spread myself" to the fullest.

To come directly to the point, the collection now numbers some 530 species, many of them in duplicate, and fairly representative of the 12 or 15 plant families in which succulent xerophytes occur. Up until the present winter, this highly varied collection has been carried through the cold period under ordinary greenhouse conditions, with very little etiolation and with a fair amount of inflorescence. Last autumn, however, the department installed for me a thermostati-

cally controlled heating system, which affords a more adequate situation. But even with this, there were untoward conditions to be met. It was immediately obvious that no compromise in temperature or treatment would suit the extremes represented, but that some such compromise was demanded. Consequently, epiphytic cacti and the Aeoniums, since they need more moisture and heat, were moved into the fern house. Then the thermostat was set at 55 degrees, in the belief that this moderate temperature would be most conducive to the remaining plants, with respect to degree of succulence and age, since mature, well established plants need less, and juvenile plants more, heat and moisture. Strictly desert plants were given the sunnier locations, with those known to thrive with less light occupying the shadier parts of the house.

One-half of the greenhouse is given over to a naturalistic planting of large and small plants. The remaining one-half is supplied with the conventional florists benches, with the pots plunged in clean sand. All plants are arranged in their respective family groups, with each family carrying a master label and each specimen an individual label. We use ordinary cypress pot labels, which are first painted with a good filler coat, followed by two coats of aluminum paint. The lettering is done with waterproof India ink, although a "rain proof" pencil has been found satisfactory.

On the frequent occasions when we have one to several bright sunny days, the temperature automatically ascends to as high as 75 F. It is then that we look to moisture requirements. "Leafy" plants, as the Bryophyllums, Kalanchoes and others of the Crassulaceae, definitely demand moisture if they are to remain sightly. The desert species, particularly the highly succulent ones, need less. And so, with so heterogeneous a family, brought together from the four corners of the world and subjected to a fairly uniform artificial environment, we keep

them all fairly dormant and fairly happy. That illusive something, often referred to in the literature, *does* actually come to pass; we really do learn, we hardly know how, to anticipate the requirements of a given species or a given plant.

We trust that in addition to serving our own University, this collection may come to the attention of collectors and students throughout the

Middle West—and to all members of the Society who may be passing through Ohio. Just what the ultimate results from this experiment may be, remain to be seen. We hope, however, to share them with readers of the JOURNAL from time to time.

H. C. SHETRONE, *Director*
Ohio State Museum, Columbus, Ohio.



Interesting layout of the Cactus Garden planted in Bixby Park, Long Beach, Calif., by the Long Beach Cactus Club. All of the plants were contributed by the members and their friends and are cared for by a committee of members. Note the alternate planting of Aloes and Agaves in the foreground; the Aloes are in full color in the winter (it is summer now in Africa,—the home of Aloes) when other plants are dormant.

EDITOR'S NOTE: We are preparing a list of the collections in public institutions where succulents are being grown. This work is fast gaining popularity and deserves publicity and much credit. We are sure that an additional number of our members would like to contribute material if they knew the needs of each institu-

tion. These public collections are not begging material but we should be glad to offer plants to help them in their work. We will appreciate hearing what the needs are, the facilities for growing plants (hardy or tender), whether or not there is a limit to the shipping costs that can be absorbed, etc.

COLOR PRINTS

Dealers Please Note: We are reprinting the color plates of both cacti and succulents showing 140 plants in full color. These miniature pictures are available to ALL dealers at \$3.00 per 100 but orders must be received immediately. The more of these plates that are distributed the greater the interest in these plants. Box 101, Pasadena, Calif.

FROM AUSTRALIA

I have found the Pronouncing Glossary very useful indeed, and would like to support the request of Mr. J. Cecil Johnston for a series of keys to the various genera of Cacti and Succulents. Such information is not easily obtainable in Australia and would probably be of value to many members in other distant parts.

G. E. MARSHALL, M.Sc.

FROM ILLINOIS

I really am of the opinion that all collectors in traveling should contact as many other collectors as possible. The few I contacted were certainly glad to see me and on arriving home have received some very excellent letters. This meeting of other collectors, with exchange of ideas, etc., will stimulate interest greatly. I would strongly suggest that all members planning on any trip should notify you where they are going and you send them a list of collectors in the various towns enroute. I know I would thoroughly enjoy visits from other collectors, and wish that any one going near Amboy would have my address so they could look me up.

PROF. ARTHUR BLOCHER, Amboy, Illinois.

VISITORS

Important Notice: Your Society President and the Editor of the JOURNAL receive many requests for the addresses of gardens or collections open to visitors. For instance, a Society member in New Jersey is taking a trip to Florida and desires a list of other mem-

bers that he might call on enroute. There may be circumstances that will not permit visitors. Other members enjoy contacting growers from other parts of the country. These visitors are not scientists or critics and if you will tell them how much time you can spare, we can guarantee a mutually enjoyable visit. If you will allow visitors, please mail a post card to 327 N. Ave. 61, Los Angeles, Calif.

FROM INDIANA

Have read your Cactus and Succulent Journal since August and I have read and enjoyed every copy of it. I think all of the contributors should have a vote of appreciation coming. They have done a valuable work.

In the January issue I like George Lindsay's "Vacation in Mexico," especially the pictures as it greatly simplifies the identification of plants for the amateur like myself.

RUBY GOERS, Ind.

Most sincere congratulations for starting the volumes with the calendar year. It's a swell idea.

J. WHITMAN EVANS, Ariz.

WITH OUR AFFILIATES

"FROM OKLAHOMA"

On December 21st we met for our annual Christmas Party at the home of Mr. and Mrs. Jas. H. Hyde. Plants, pottery and other items suitable for the cactus fan went to new homes in the gift exchange. Mrs. Hyde, our President, was presented a lovely *Cephalocereus senilis* about a foot tall by the Society in appreciation for her year of splendid leadership, presentation being made by Mr. C. L. Wiese.

A jolly good time was the order of the evening: Games furnished much fun and even the goat came to life again after a long rest. Here he was on the Christmas tree. "Why! Oh! Why! Isn't it enough to slap a goat and take the consequences with all this?" And another thing to live down. So enthused, was a certain member during the presentation speech, that a button popped off and clattered across the room. All would have been well, however, if Marjorie Lee had not seen fit to make a brilliant remark just at this time. Anyway, Mr. Wiese finally got through the presentation ceremony. Apologies, Mr. Wiese and Mrs. Hyde, for the interruption. Such a bunch! And then on a cold wintry evening, what is better than hot gingerbread and spiced tea—then a late "Good night!"

Now, I'll tell you a secret. A certain professor who is also one of our most esteemed members was given a special invitation to our Christmas Party, and urged to come with the remark that he had never seen the gang making whoopee. His calm and casual answer was—"I never saw them when they weren't." The secret! Oh, it's how we maintain interest among our members. We all enjoy our meetings so much we can't stay away. While we maintain a routine in our affairs, our laws are rather elastic with the cut and dried program taboo, and shame on us. When we get enthusiastic, we all try to talk at once. We do have a lot of fun yet really study and have the reputation among the associated garden clubs as being one of the most botanically-minded of the group, not on cactus and other succulents alone, but including garden flowers, wild flowers, trees and shrubs.

Two lovely corsages, made entirely of cactus and other succulents, were worn at the Christmas Party by Mrs. Harry Johnson and Mrs. S. P. Seela. Very unique and attractive—gifts from our Mr. Harold Whitley of Sapulpa, Oklahoma.

Our new Year-Books are out—"Very nice, too, we think,"—thanks Mr. and Mrs. R. A. Chubb.

We have been enjoying some real snow here since Christmas—more than usual for this locality. Some of our members are trying a few new plants outside to see if they will survive our winters—Here's hoping.

"The Candid Reporter"

EDITOR'S NOTE: To show that the Cactus and Succulent Society of Oklahoma can be studious, glance through their program for this new year. The list of topics may inspire other groups to follow a planned course of study:

Review of Desert Magazines, Talk on Mexico, Cephalocereus, Questions, Answers and Discussion, Zygocactus and Schlumbergera, Sedums, Review of Our Library, Summer Landscaping in Oklahoma, Questions, Answers and Discussion, Cactus Species with Golden Spines, What the Desert Plants Mean to the Desert Dwellers—Outdoor meeting, What are Cacti, Succulents and Xerophytes—Outdoor meeting, Lithops—Outdoor meeting, Echeverias and Semperviviums—Outdoor meeting, Haworthias—Outdoor meeting, Principles of Hybridizing—Outdoor meeting, Questions, Answers and Discussion, Ecology of Cacti, Some of the Cacti Collectors and Botanists Who Have Made History, Aloes and Agaves, Historical Notes Pertaining to Cacti, Cacti in Kodachrome, Questions, Answers and Discussion, Christmas Party, Starvation of Pot Grown Desert Plants, Plant Physiology, The Cactus Hobby As a Form of Recreation.

We hope that our Oklahoma affiliate will continue to send us mimeographed copies of their discussions. Each one is carefully preserved by the Editor for future use.

SOUTHERN CALIFORNIA CACTUS EXCHANGE

Our January meeting was well attended and the talk by Dr. Poindexter was enjoyed by all. He opened his talk by asking three of our members this question, "What are the three most important points to consider in growing cactus?" This brought out the following answers. First, the right kind of soil. Second, water or drainage. Third, sunlight and location. He then proceeded to illustrate these points by showing us plants that had lacked one or more of these requirements. He also had plants that had been damaged by rust, scale, red spider and other pests, and with samples of sprays to show, told of the results obtained from use in their own garden. This talk was very entertaining as well as educational.

HARLEY A. DOTY.

SEATTLE NOTES

From the little experience that I have had with nematodes, they are definitely injurious to potted plants. Where I have found them the plants have always looked sickly and refused to grow. My treatment has been to cut the roots off and re-root or graft on to new stock. They are not much of a pest here as they are not a garden pest.

I do not think that members of our club would like Mr. Smith's idea of succulent keys. Our members haven't done much collecting outside the Cactaceae family and we do not have the material available to work with. However, we would appreciate any articles that have an understandable key. Is it your plan to illustrate an entire genus or only complete Britton and Rose? We would like to see some of the more popular genera completely redone, or is that asking too much? Right now we are having a lot of difficulty with some of the *Astro. cap.* varieties, and we would certainly welcome a well illustrated article on them.

I think a comparison of similar species would also be interesting. (I have in my collection *M. detricbeae* from Mrs. Hummel that is like Johnson's *M. parkinsonii*). So often this happens. It might make the dealer a little more careful in sending out plants, if some well-illustrated and well-described series were available. And in time they would probably accept the Committee's names for them. People will buy plants because the pictures appeal to them or because they have seen a plant in some one's collection that they like, and pity the poor dealer if he sends them something different.

I hope that any descriptive material that you use will be placed in the JOURNAL so that it can be taken out and rebound. Not much use to us unless we can have it all together in one place.

I liked Mr. Mark's article on "tins." He made the waterproofing sound so easy that I think I can get Mr. Lewis to do some for me in the spring.

Our Vice-President, Mrs. Ross Nichols, just returned from an interesting trip to Southern California. She visited some of the nurseries, and had the good luck to find a crested *Mammillaria dioica* near San Diego. She and Mrs. Eylers have tried to get together specimens of the different genera to illustrate the papers they are giving on the Echinocactaceae.

Mrs. Lill is another member who made a trip into the Midwest this summer and brought back a lot of different species from Colorado and Kansas. This is the first time that many of our members had seen *Pediocactus simpsonii*, which is so very different from our own native variety.

What's this about the Mexican Government increasing the export duty on cacti? It is going to make them pretty expensive isn't it?

We can no longer get Union Garden Spray here, so I have gone back to rubbing alcohol for mealy bugs and nicotine for thrips.

The first hard rain that we had, just before Christmas, went through our cellophane screen frame. This was very disappointing, because in every other way it has proven so satisfactory.

MRS. HARRY LEWIS.

NEW EXPORT LAW

Mr. Schmoll reports a new law in Mexico placing an export tax of 20 pesos (\$4.00) on each orchid plant and 30 centavos (6 cents) for each cactus plant. Mr. Schmoll has adjusted his prices hoping that he can continue to make American importations attractive.

THE CACTUS AND ROCK CLUB

In my name, but for the use of The Cactus and Rock Club, of El Paso, Texas, I renew our subscription to the JOURNAL for 1940. I would like to tell you something about our Club, and we would be most flattered if you cared to tell about us at some future time in the JOURNAL.

We have been a loosely organized club for over six years, but not until two years ago did we really organize with an idea of study; and not until last year did we know about or take the JOURNAL. As Study Chairman, I prepared a program including study of both rocks and plants, but this year our lessons are being taken almost exclusively from the JOURNAL. The first meeting of this year, Mrs. Sara Pattison talked to us; she is in the cactus business here and has been for over forty years and was well acquainted with Drs. Rose and Houghton and often worked the hills and deserts here with them. She is a most interesting talker and has been so kind as to offer to come to each member's garden and help label his plants in a manner so they will be known by their proper names—and not by melon, button, rainbow, etc. This offer we have accepted and hope before another year not to be so ignorant to the true names for our plants.

We all have lovely gardens and this country being full of the most colorful rocks, our gardens show up beautifully. Next spring, when blooming time arrives, I shall send you snapshots of each garden with the owner in it. Any of these you may use in the JOURNAL, if you wish.

We have a Cactus Club Scrap Book; in this book are pictures of members and gardens, newspaper clippings of interest about cacti and the doings of our Club and anything else of interest to the members.

We meet for study one afternoon each month—the second Wednesday. One evening each month—the last Thursday, we have a social evening, at which husbands are present. This year the Club will combine four social evenings with a study time so that various husbands will have the study hour—the theme being left for their selection.

Nearly every week all of us turn out in our cars and take to the hills for plants or rocks; we have some wonderful trips, and come home late at nights, tired and happy and loaded. We take huge eats and make hot coffee over a campfire, and lots of fun and raillery is indulged in. We always have a community Thanksgiving dinner; this year with our families there were twenty-eight of us. Everybody's birthday is celebrated in a fitting manner, with a birthday cake and a nice gift.

However, we have made one rule: our Club is a closed club as to memberships. All of us being friends of long standing, we feel it is better this way. Our Club is harmonious, which might not be were we to open the membership list to the public. To our husbands is due our success since they are all so fine about letting us go where we wish and filling the cars to capacity, and they cheerfully tote and carry for us until sometimes coming down a hillside they look like nothing more than Mexican burros, well loaded.

May The Cactus and Rock Club wish the JOURNAL members a most Happy and Prosperous New Year.

MRS. R. H. MILLER, Study Chairman.

161 N. Cebada St., El Paso, Texas.

NEW JERSEY MEMBERS

Please contact Mrs. Frances Leber, Rt. 2, Box 92, Toms River, N. J. An affiliate is much needed in this locality.

BOUND VOLUMES OF THE CACTUS JOURNAL
Order now while these are available. Terms if desired.

AFFILIATED SOCIETIES OF THE CACTUS AND SUCCULENT SOCIETY OF AMERICA, INC.

The following impressive list shows the activities in all parts of the world where these influential groups have become a part of the one international organization. One by one these groups have volunteered to add their forces to the Cactus and Succulent Society of America as they realize that there is strength in unity while all are working for the same cause.

It is interesting to note how the enthusiasm in a locality is in direct proportion to whether or not there is a strong leader, an active dealer, a botanical garden containing succulents, or a heavy sale in such books as "Cactus for the Amateur." We can point out the sections of the country where there are many collectors or we can show you sections where interest is on the wane.

The publishing of this list will help those who wish to join the group nearest them. If a particular group is full or restricted, we are sure that the Secretary will advise those interested how they can form their own study group. This list will be published frequently and we will appreciate corrections and changes. Ervin Strong, 315 W. Erna, La Habra, Calif.

ADDRESSES OF AFFILIATE SOCIETIES FOR 1940

DENVER CACTUS & SUCCULENT SOCIETY

Secretary, Miss Muriel Colburn, 1101 E. Dartmouth Avenue, Englewood, Colorado.

CACTUS STUDY CLUB

Secretary, Mrs. George Little, 581 South Street, S. E., Warren, Ohio.

CACTUS & OTHER SUCCULENT LEAGUE

Secretary, John L. Hastings, 817 Curtis Street, Berkeley, California.

WASHINGTON CACTUS & SUCCULENT SOCIETY

Secretary, Mrs. A. J. Cotton, 7029 18 N. E. Seattle, Washington.

CACTUS & SUCCULENT SOCIETY OF MILWAUKEE

Secretary, Pat White, 527 North 62nd Street, Wauwatosa, Wisconsin.

K. I. O. CACTUS CLUB

Secretary, Chas. R. Cole, 1797 Taft Road, Station D, Cincinnati, Ohio.

MIDWEST CACTUS & SUCCULENT SOCIETY

Secretary, Mrs. Flora Trapp, 3680 West 133 Street, Cleveland, Ohio.

CACTUS & SUCCULENT SOCIETY OF OKLAHOMA

Secretary, Miss Clea Stubblefield, 612 N. E. 9th Street, Oklahoma City, Oklahoma.

SOUTHERN CALIFORNIA CACTUS EXCHANGE

Secretary, Mrs. Jack Ginter, 1044 North Normandie Avenue, Los Angeles, California.

LONG BEACH CACTUS & SUCCULENT SOCIETY

Secretary, George Becker, 312 Eliot Court, Long Beach, California.

SAN GABRIEL VALLEY CACTUS CLUB

President, Robert S. Woods, Box 356, Azusa, California.

CACTUS & SUCCULENT SOCIETY OF AUSTRALIA

Secretary, Jas. S. Thonemann, 15 Saint Aubins Avenue, Caulfield S.E. 7, Victoria, Australia.

CACTUS & SUCCULENT SOCIETY OF JAPAN

Secretary, M. Megata, Omiya-shakadancio, Kyoto, Nippon, Japan.

CACTUS & SUCCULENT SOCIETY OF RIVERSIDE

President, R. E. Caryl, 4425 Central Avenue, Riverside, California.

THE DES MOINES CACTUS & SUCCULENT SOCIETY

Corresponding Secretary, Mrs. Al Campbell, 428 Keo Way, Des Moines, Iowa.

ROSWELL CACTUS CLUB

Secretary, I. W. Woolsey, 511 Virginia Avenue, Roswell, New Mexico.

ARIZONA CACTUS & NATIVE FLORA SOCIETY

Secretary, Kathryn L. Walker, 425 Security Building, Phoenix, Arizona.

CACTUS & SUCCULENT CLUB OF CHICAGO

Corresponding Secretary, Mrs. Thomas F. Koranda, 2716 West 23rd Place, Chicago, Illinois.

FROM INDIANA

If one or more persons in Muncie receive your JOURNAL please advise name and address. If there are enough will try to start cactus club. Will those interested please communicate with

H. C. HAND, 519 N. Martin St., Muncie, Ind.

The "Glossary of Succulent Terms" was the outstanding part of the JOURNAL in 1939. It will be invaluable in describing and naming new species. I plan to spend three months in Texas and New Mexico gathering type material and taking pictures.

J. PINCKNEY HESTER, Ariz.

HUMMEL'S EXOTIC GARDENS

"The Cactus Emporium"

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Haworthia papillosa! few, very rare. \$1.00
Crassula lycopodioides, new type.15
Crassula similar to above but larger.25
Crassula species, like the foregoing, both may be
 natural hybrids of *C. pyramidalis*.15
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Opuntia parryi monstrosus, small plants only,
 forming bud-like clumps, interesting novelty .15
Epithelantha crest, new species.3.50
Echinopsis ancistrophora crest.2.50
Epidendrum tampense, butterfly orchid. .50 and \$1.00
Polypodium polypodioides, xerophytic fern.50
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10 Plants (each different) \$1.00
 15 Plants (each different) 1.50
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Lophophora williamsii, *Astrophytum asterias*,
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 Collector of Phyllos., Box 151, San Pedro, Calif. By
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Please ask for our latest Supplement to our
 1939 price-list which stands for 1940.

SCHWARZ & GEORGI

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*Schlumbergera Gaertneri**Schlumbergera Russeliana*

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 have seen anywhere. Think what a saving this is. Don't
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 in the world. Cacti Seed, Mixed Mammillaria seed
 easily grown species with full growing instructions:
 150 seeds, 25c; 1000, 75c; 5000, \$3.00; *Cereus peru-*
vianus seed, 400, 25c; 5000, \$1.00.
 We issue no catalog, so we again urge you to visit our
 gardens if at all possible.

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 the beginner what cacti he can grow and furnishes
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 and 160 illustrations besides the color plate of 110
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 3c (foreign 15c). Box 101, Pasadena.

